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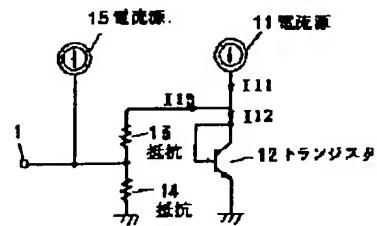
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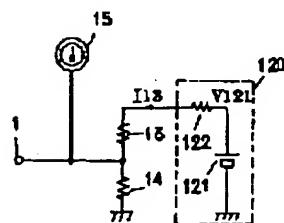
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 AB. DATE : 06-12-1993 PAT: A 5216550
 PATENTEE : MATSUSHITA ELECTRIC IND CO LTD
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INVENTOR : IKEDA MASAHIRO
 INT.CL. : G05F3/20; H02J1/00
 TITLE : VOLTAGE GENERATOR

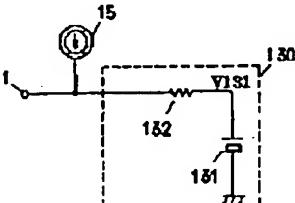
(a)



(b)



(c)



ABSTRACT : PURPOSE: To obtain a voltage independent of the temperature even under a supply voltage lower than a specific voltage (1.25V). CONSTITUTION: This voltage generator is provided with an output terminal 1, current sources 11 and 15, and a transistor TR 12 subjected to diode connection. A current is allowed to flow from the current source 15 to resistances 13 and 14 connected in series to obtain the voltage of the output terminal 1. Current sources 11 and 15 are band gap current sources. When the current source 15 is made open, the part of the TR 12 is expressed by an equivalent circuit 120 using a voltage source 121 and a resistance 122, and the equivalent circuit 120 and resistances 13 and 14 are expressed by the equivalent circuit 130 by using the Ohtori-Thevenin's theorem.